

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
ON APPEAL FROM THE EXAMINER TO THE BOARD
OF PATENT APPEALS AND INTERFERENCES**

In re Application of: Richard H. Harvey
Serial No.: 09/827,738
Filing Date: April 6, 2001
Group Art Unit: 2162
Examiner: Jean B. Fleurantin
Confirmation No.: 6701
Title: DIRECTORY SEARCHING METHODS AND SYSTEM

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

REPLY BRIEF

Pursuant to 37 C.F.R. § 1.193, Appellant respectfully files this Reply Brief in response to the Examiner's Answer dated November 14, 2008.

ARGUMENTS

Appellant filed an Appeal Brief on July 18, 2008, explaining clearly and in detail why Claims 1-7 and 22-28 are allowable over the prior art cited by the Examiner in the Final Office Action dated February 21, 2008 and the Advisory Action dated April 18, 2008. Specifically, Appellant demonstrated that the rejection of Claims 1-7 and 22-28 over the proposed *Leung-Rumbaugh* combination is improper. For the reasons discussed below, Appellant respectfully submits that these rejections continue to be improper and should be reversed by the Board.

I. Claims 1-3 and 6-7 are Allowable over the proposed *Leung-Rumbaugh* Combination

In the Appeal Brief, Appellants identified at least three claim elements recited in independent Claim 1 that are distinguishable over the proposed *Leung-Rumbaugh* combination. It is Appellants' position that the arguments presented in the Appeal Brief continue to be of merit. Appellants' address each of the Examiner's responses to these arguments below.

A. The proposed Leung-Rumbaugh combination does not disclose, teach, or suggest “*creating a second table storing the plurality of data components of the data entry of the first table*”

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “*creating a second table storing the plurality of data components of the data entry of the first table*,” as recited in Appellant's Claim 1. Specifically, Appellants argued that *Rumbaugh*, which is relied upon by the Examiner for disclosure of “*creating a second table storing the plurality of data components of the data entry of the first table*” (*Final Office Action*, pages 6-8), merely discloses “*how to translate object models into DBMS code*.” (*Rumbaugh*, page 368, paragraph 2; page 374, paragraph 5). According to the process disclosed in *Rumbaugh*, each object model is translated into an ideal table or table model. Because the table model of *Rumbaugh* is formed from an object model and because an object model is not a “*first table*”, *Rumbaugh* cannot be said to disclose, teach, or suggest “**creating a second table** storing the plurality of data components of the data entry of

the **first table**,” as recited in Claim 1. At most *Rumbaugh* discloses creating a second table from an object model.

In response, the Examiner states:

Leung discloses the DIT table holds “stores” the information of the structure of the DIT; see Fig. 6 table DIT; page 739, col. 1, paragraph 1, lines 3-4.

Rumbaugh discloses a database management system, data model; see page 367; paragraph 17.1. Further, on page 368, lines 6-10, *Rumbaugh* disclose the conceptual schema integrates related applications and hides the peculiarities of the underlying DBMS, the internal schema deals with the limitations and features of a specific DBMS, the internal schema level consists of actual DBS code required to implement the conceptual schema. Therefore, *Rumbaugh* discloses creating a second table storing data components and having one row for each component of the data (see *Rumbaugh* Figs. 17.12 and 17.13, pages 380-381, paragraph 17.3.5).

(*Examiner’s Answer*, page 7). However, this does not answer Appellants’ arguments or explain how the cited disclosures can be read to read on Appellants’ step of “creating a **second table** storing the plurality of data components of the data entry of the **first table**,” as recited in Claim 1. Further, while Appellants do not disagree with the Examiner’s statement that *Leung* discloses a DIT table, Appellants continue to disagree with any contention that *Rumbaugh* and its combination with *Leung* suggests that the creation of a second table “storing the plurality of data components of the data entry” of the DIT.

As noted by the Examiner, the cited portion of *Rumbaugh* merely discuss the three layers of schema that form the basis of database design: external schema, conceptual schema, and internal schema. (*Rumbaugh*, Section 17.1, 367-368). Each schema is a view of the database design from a different perspective (i.e., single application, global, and enterprise). The relation between the three is that internal schema “consists of actual DBMS Code required to implement the conceptual schema.” (*Rumbaugh*, Section 17.1, page 368). No portion of *Rumbaugh*, however, discloses “creating a **second table** storing the plurality of data components of the data entry of the **first table**,” as recited in Claim 1. Rather, and as previously identified by Appellants, *Rumbaugh* merely “explains how to translate object models into DBMS code.” (*Rumbaugh*, Section 17.1, page 368; see also Figures 17.12-14; page 380, paragraphs 1-6). *Rumbaugh* does not disclose translating table models into table models or the like or suggest the translation of the DIT table into a table model, as proposed by the Examiner. Accordingly, the proposed *Leung-Rumbaugh* combination does not disclose,

teach, or suggest “creating a **second table** storing the plurality of data components of the data entry of the **first table**,” as recited in Claim 1. Further, in view of this apparent disconnect, it would not have been obvious to one of ordinary skill in the art at the time of Applicant’s invention to modify the DIT system of *Leung* to include the recited claim elements. One of ordinary skill in the art.

For at least these reasons, the rejection remains improper.

B. The proposed Leung-Rumbaugh combination does not disclose, teach, or suggest “the second table comprising one row for each of the plurality of data components of the given data entry of the first table”

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “the **second table** comprising one row for each of the plurality of data components of the given data entry of the **first table**,” as recited in Appellant’s Claim 1. Specifically, Appellants argued that while *Leung* discloses a DIT table and an ENTRY table there is no disclosure in *Leung* of the ENTRY table “comprising one row for each of the plurality of data components of the given data entry” of the DIT, as is required by Appellant’s Claim 1. In view of Figure 6, were *Leung* to disclose Applicants’ recited claim elements, the first row of the ENTRY table would include an entry for “Entry-ID”, the second row of the ENTRY table would include an entry for “Parent-ID”, and the third row of the ENTRY table would include an entry for “Coded-RDN”. This is clearly not the case. At most, *Leung* can be said to disclose is that the first table includes one row for the data of the first table and that the second table includes one row for the data of the second table. Even though both tables may store data for common directory objects, *Leung* does not disclose, teach, or suggest that “the second table comprising one row for **each of the plurality of data components of the given data entry** of the first table,” as recited in Claim 1. Since *Rumbaugh* merely discloses translating an object model into a table model and then translating the table model into DBMS code, *Rumbaugh* also cannot be said to disclose the recited claim elements.

In response, the Examiner states that *Leung* discloses “the DIT table holds (storing) the information of the structure of the DIT” and that *Rumbaugh* discloses sql operators for manipulating tables, for creating tables and for performing other functions. (*Examiner’s Answer*, page 7). However, this does not answer Appellants’ arguments or explain how the cited disclosures can be read to read on Appellants’ “**second table** comprising one row for each

of the plurality of data components of the given data entry of the **first table**,” as recited in Appellant’s Claim 1. At most, the two references can be read to indicate that the SQL operators of *Rumbaugh* can be used to modify the DIT or ENTRY tables of *Leung*. There is no disclosure in either reference or in their proposed combination of creating a second table with the structure specified in Appellants’ Claim 1. Appellants’ claim does not merely recite using SQL operators to modify a table. Rather, Appellants’ claim recites the creation of a second table from the first and specifies that the second table includes one row for **each of the plurality of data components of the given data entry** of the first table. Thus, the second table includes a row for each data component in a row (a.k.a. data entry) of the first table. The recited claim elements are simply not disclosed or suggested by the proposed *Leung-Rumbaugh* combination.

For at least these reasons, the rejection remains improper.

C. The proposed Leung-Rumbaugh combination does not disclose, teach, or suggest “searching the rows of the second table to identify a particular one of the plurality of data components” and “returning the given data entry from the first table that includes the particular one of the plurality of data components”

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “searching the rows of the second table to identify a particular one of the plurality of data components” and “returning the given data entry from the first table that includes the particular one of the plurality of data components,” as recited in Claim 1. Specifically, Appellants argued that *Leung* only discloses that a number of operations that may be performed on the DIT and ENTRY tables. Such operations include DitNavigate, DitAdd, DitRemove, DitChildren, DitParent, DitSubtree, DitModifyRdn, Read, Add, Remove, Modify, ModifyRDN, Compare, GETRdn, and Search. (*Leung*, page 739, column 1, paragraph 2). However, there is no disclosure in *Leung* that the operations relating to the DIT and ENTRY tables are interrelated. For example, with respect to a “Search” operation performed on the ENTRY table, *Leung* discloses that the “Search” operation results in the return of “details of ENTRYs which satisfied the specified filter (search conditions) within the specified search domain (a list of system identifiers of objects to be searched).” (*Leung*, page 739, column 1, paragraph 2). As such, the “Search” operation to be performed on

the ENTRY table as disclosed in *Leung* is used to identify an entry in the ENTRY table and not an entry in the DIT table.

In response, the Examiner states that *Leung* discloses “search, returns details of ENTRYs which satisfied the specified search conditions within the specified search domain” and that *Rumbaugh* discloses sql operators for manipulating tables, for creating tables and performing other functions. (*Examiner’s Answer*, page 7). However, this does not answer Appellants’ arguments or explain how the cited disclosures can be read to read on Appellants’ step of “searching the rows of the **second table** to identify a particular one of the plurality of data components” and “returning the given data entry from the **first table** that includes the particular one of the plurality of data components,” as recited in Appellant’s Claim 1. At most, the two references can be read to indicate that SQL operators, such as those disclosed in *Leung* and *Rumbaugh*, can be used to manipulate the DIT or ENTRY tables of *Leung*. There is no disclosure in either reference or in their proposed combination of searching the rows of one table to identify a particular data component and then returning a data entry from another table that includes the particular data component, as specified in Appellants’ Claim 1.

Appellants’ claim does not merely recite using SQL operators to search a table. Rather, Appellants’ claim recites “searching the rows of the **second table** to identify a particular one of the plurality of data components” and “returning the given data entry from the **first table** that includes the particular one of the plurality of data components.” Thus, Appellant’s method of searching a database requires the cooperation of two tables to search the second table to identify a particular data component, and then return the given data entry from the first table that matches the component located in the second table. Appellant contends that the mere general disclosure in *Leung* of providing a search service for DIT and ENTRY tables and the mere disclosure in *Rumbaugh* of SQL operators for manipulating tables is not analogous to Appellants’ step of “searching the rows of the **second table** to identify a particular one of the plurality of data components” and “returning the given data entry from the **first table** that includes the particular one of the plurality of data components,” as recited in Claim 1. The recited claim elements are simply not disclosed or suggested by the proposed *Leung-Rumbaugh* combination.

For at least these reasons, the rejection remains improper.

D. Conclusions with Respect to Claims 1-3 and 6-7

For at least these reasons, Appellants respectfully submit that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Leung-Rumbaugh* combination with respect to independent Claim 1. Thus, for at least these reasons, Appellants submit that these rejections are improper and respectfully request that the Board reverse these rejections of independent Claim 1, together with Claims 2-3 and 6-7 that depend on Claim 1.

II. Claims 22-24 are Allowable over the proposed *Leung-Rumbaugh* Combination

In the Appeal Brief, Appellants identified at least two claim elements recited in independent Claim 22 that are distinguishable over the proposed *Leung-Rumbaugh* combination. It is Appellants' position that the arguments presented in the Appeal Brief continue to be of merit. Appellants' address each of the Examiner's responses to these arguments below.

A. *The proposed Leung-Rumbaugh combination does not disclose, teach, or suggest “the second table comprising one row for each of the plurality of data components of the given data entry of the first table”*

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “the **second table** comprising one row for each of the plurality of data components of the given data entry of the **first table**,” as recited in Appellant's Claim 22. Specifically, Appellants argued that at most, *Leung* can be said to disclose is that the first table includes one row for the data of the first table and that the second table includes one row for the data of the second table. Even though both tables may store data for common directory objects, *Leung* does not disclose, teach, or suggest that “the second table comprising one row for **each of the plurality of data components of the given data entry** of the first table,” as recited in Claim 1. Since *Rumbaugh* merely discloses translating an object model into a table model and then translating the table model into DBMS code, *Rumbaugh* also cannot be said to disclose the recited claim elements.

In response, the Examiner states that *Leung* discloses “the DIT table holds (storing) the information of the structure of the DIT” and that *Rumbaugh* discloses sql operators for manipulating tables, for creating tables and for performing other functions. (*Examiner's Answer*, page 7). However, this does not answer Appellants' arguments or explain how the

cited disclosures can be read to read on Appellants' "**second table** comprising one row for each of the plurality of data components of the given data entry of the **first table**," as recited in Appellant's Claim 1. At most, the two references can be read to indicate that the SQL operators of *Rumbaugh* can be used to modify the DIT or ENTRY tables of *Leung*. There is no disclosure in either reference or in their proposed combination of creating a second table with the structure specified in Appellants' Claim 1. Appellants' claim does not merely recite using SQL operators to modify a table. Rather, Appellants' claim recites the creation of a second table from the first and specifies that the second table includes one row for **each of the plurality of data components of the given data entry** of the first table. Thus, the second table includes a row for each data component in a row (a.k.a. data entry) of the first table. The recited claim elements are simply not disclosed or suggested by the proposed *Leung-Rumbaugh* combination.

For at least these reasons, the rejection remains improper.

B. *The proposed Leung-Rumbaugh combination does not disclose, teach, or suggest "using the component identifier indicating the data type to execute one of an exact or initial matching on a column of a second table in order to locate the component in the second table" and "returning the given data entry from the first table matching the component located"*

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest "using the component identifier indicating the data type to execute one of an exact or initial matching on a column of a second table in order to locate the component in the second table" and "returning the given data entry from the first table matching the component located," as recited in Claim 22. Specifically, Appellants argued that *Leung* only discloses that a number of operations that may be performed on the DIT and ENTRY tables. Such operations include DitNavigate, DitAdd, DitRemove, DitChildren, DitParent, DitSubtree, DitModifyRdn, Read, Add, Remove, Modify, ModifyRDN, Compare, GETRdn, and Search. (*Leung*, page 739, column 1, paragraph 2). However, there is no disclosure in *Leung* that the operations relating to the DIT and ENTRY tables are interrelated. For example, with respect to a "Search" operation performed on the ENTRY table, *Leung* discloses that the "Search" operation results in the return of "details of ENTRYs which satisfied the specified filter (search conditions) within the specified search domain (a list of system identifiers of objects to be searched)." (*Leung*, page 739, column 1, paragraph 2). As

such, the “Search” operation to be performed on the ENTRY table as disclosed in *Leung* is used to identify an entry in the ENTRY table and not an entry in the DIT table.

In response, the Examiner states that *Leung* discloses “search, returns details of ENTRYs which satisfied the specified search conditions within the specified search domain” and that *Rumbaugh* discloses sql operators for manipulating tables, for creating tables and performing other functions. (*Examiner’s Answer*, page 7). However, this does not answer Appellants’ arguments or explain how the cited disclosures can be read to read on Appellants’ step of “using the component identifier indicating the data type to execute one of an exact or initial matching on a column of a second table in order **to locate the component in the second table**” and “returning the given data entry **from the first table** matching the component located,” as recited in Appellant’s Claim 1. At most, the two references can be read to indicate that SQL operators, such as those disclosed in *Leung* and *Rumbaugh*, can be used to manipulate the DIT or ENTRY tables of *Leung*. There is no disclosure in either reference or in their proposed combination of searching the rows of one table to locate a component and then returning a data entry from another table that includes the particular data component, as specified in Appellants’ Claim 1.

Appellants’ claim does not merely recite using SQL operators to search a table. Rather, Appellants’ claim recites “using the component identifier indicating the data type to execute one of an exact or initial matching on a column of **a second table** in order to locate the component in the second table” and “returning the given data entry from **the first table** matching the component located.” Thus, Appellant’s method of searching a database requires the cooperation of two tables to search the second table to identify a particular data component, and then return the given data entry from the first table that matches the component located in the second table. Appellant contends that the mere general disclosure in *Leung* of providing a search service for DIT and ENTRY tables and the mere disclosure in *Rumbaugh* of SQL operators for manipulating tables is not analogous to Appellants’ step of “using the component identifier indicating the data type to execute one of an exact or initial matching on a column of a second table in order to locate the component in the second table” and “returning the given data entry from the first table matching the component located,” as recited in Claim 1. The recited claim elements are simply not disclosed or suggested by the proposed *Leung-Rumbaugh* combination.

For at least these reasons, the rejection remains improper.

C. Conclusions with Respect to Claims 22-24

For at least these reasons, Appellants respectfully submit that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Leung-Rumbaugh* combination with respect to independent Claim 22. Thus, for at least these reasons, Appellants submit that these rejections are improper and respectfully request that the Board reverse these rejections of independent Claim 22, together with Claims 23-24 that depend on Claim 22.

III. Claim 4 is Allowable over the proposed *Leung-Rumbaugh* Combination

In the Appeal Brief, Appellants identified at least one claim element recited in dependent Claim 4 that is distinguishable over the proposed *Leung-Rumbaugh* combination. It is Appellants' position that the arguments presented in the Appeal Brief continue to be of merit.

A. *The proposed Leung-Rumbaugh combination does not disclose, teach, or suggest “the data is or represents a X.509 certificate”*

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “the data is or represents a X.509 certificate,” as recited in Appellant’s Claim 4. Specifically, Appellants argued that *Leung*, as relied upon by the Examiner, merely includes multiple directory users, which communicate with Directory System Agents (DSA) through a Directory User Agent (DUA), and a Directory Service Element Processor (DSEP), “which is the front-end processor, is responsible for communicating with DUAs through the use of an OSI communication stack.” (*Leung*, Page 737, column 2, paragraph 5). While *Leung* only discloses the system components used to send/receive a coded request, *Leung* does not disclose that the data stored in the directory system is or represents a X.509 certificate.

In response, the Examiner states that *Leung* discloses a directory system, “which conforms to the latest X.500 standard.” (*Examiner’s Answer*, page 10). However, this does not answer Appellants’ arguments or explain how the cited disclosures can be read to read on

Appellants' data representing a X.509 certificate, as recited in Appellant's Claim 1. Appellants Specification includes a detailed description and depiction of a X.509 certificate, which includes specific fields. Appellants note that there is no disclosure in *Leung* of a X.509 certificate or even of a certificate, generally. These elements are absent from *Leung*.

For at least these reasons, the rejection remains improper.

B. Conclusions with Respect to Claim 4

For at least these reasons, Appellants respectfully submit that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Leung-Rumbaugh* combination with respect to independent Claim 4. Thus, for at least these reasons, Appellants submit that these rejections are improper and respectfully request that the Board reverse these rejections of independent Claim 4.

IV. Claim 5 is Allowable over the proposed *Leung-Rumbaugh* Combination

In the Appeal Brief, Appellants identified at least one claim element recited in dependent Claim 5 that is distinguishable over the proposed *Leung-Rumbaugh* combination. It is Appellants' position that the arguments presented in the Appeal Brief continue to be of merit.

A. The proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “a selected one of the data components is a checksum or fingerprint”

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “a selected one of the data components is a checksum or fingerprint,” as recited in Appellant's Claim 5. Specifically, Applicants demonstrated that *Leung* merely discloses that a Directory Operator Processor (DOP) “organizes the DIBP requests in a logical sequence, sends them to DIBP, and collates the corresponding results returned by DIBP.” (*Leung*, Page 738, column 1, paragraph 1). “After collecting the results, [the DOP] passes them to DSEP in a form that DSEP understands.” (*Leung*, Page 738, column 1, paragraph 1). Thus, the cited portion of *Leung* only discloses the collection and collating of results. *Leung* does not disclose that the data stored in a table

and/or that the data identifiable by searching is a checksum or fingerprint. These elements are absent from *Leung*.

Appellants note that the Examiner has not responded to Appellants' arguments in the Examiner's Answer. Accordingly, for all the reasons discussed in Appellants' Appeal Brief, Appellants continue to submit that the rejection is improper.

B. Conclusions with Respect to Claim 5

For at least these reasons, Appellants respectfully submit that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Leung-Rumbaugh* combination with respect to independent Claim 5. Thus, for at least these reasons, Appellants submit that these rejections are improper and respectfully request that the Board reverse these rejections of independent Claim 5.

V. Claims 25-28 are Allowable over the proposed *Leung-Rumbaugh* Combination

In the Appeal Brief, Appellants identified claim elements recited in dependent Claims 25-28 that are distinguishable over the proposed *Leung-Rumbaugh* combination. It is Appellants' position that the arguments presented in the Appeal Brief continue to be of merit.

A. The proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “the data is or represents one or more of the following: a X.509 certificate, a checksum of the data, and a fingerprint of the data”

In the Appeal Brief, Appellants demonstrated that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “the data is or represents one or more of the following: a X.509 certificate, a checksum of the data, and a fingerprint of the data,” as recited in Appellant's Claim 25. Likewise, the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest “the data is or represents a checksum of the data or a fingerprint of the data,” as recited in Appellant's Claims 26-28. Specifically, Applicants demonstrated that *Leung* merely discloses Specifically, Applicants demonstrated that *Leung* merely discloses the system components used to send/receive a coded request and that the results are collected and collated. (*Leung*, Page 737, column 2, paragraph 5; 738, column 1, paragraph 1). *Leung* does not disclose that the data identifiable by searching in the table is a X.509 certificate, a checksum, or a fingerprint. These elements are absent from *Leung*.

Appellants note that the Examiner only responds to Appellants' arguments relating to the X.509 certificate. The Examiner has not responded to Appellants' arguments relating to the deficiencies of the cited references as relating to a checksum or fingerprint. Appellants continue to submit that the proposed *Leung-Rumbaugh* combination does not disclose, teach, or suggest the recited claim elements. Appellants refer the Board to Sections IV and V of this reply Brief for a detailed discussion of the deficiencies of the proposed *Leung-Rumbaugh* combination with regard to X.509 certificates, checksums, and fingerprints.

For all these reasons, Appellants continue to submit that the rejection is improper.

B. Conclusions with Respect to Claims 25-28

For at least these reasons, Appellants respectfully submit that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Leung-Rumbaugh* combination with respect to dependent Claims 25-28. Thus, for at least these reasons, Appellants submit that these rejections are improper and respectfully request that the Board reverse these rejections of dependent Claims 25-28.

CONCLUSION

Appellant has demonstrated that the present invention, as claimed, is clearly distinguishable over the prior art cited by the Examiner. Therefore, Appellant respectfully requests the Board to reverse the final rejections and instruct the Examiner to issue a Notice of Allowance with respect to all pending claims.

No fees are believed due; however, the Commissioner is authorized to charge any fees or credits to Deposit Account No. 02-0384 of Baker Botts, L.L.P.

Respectfully submitted,

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